

to the incomplete nature of so much of the fossil mustelid material which has been described from North America. It is possible that *Craterogale* is related to *Mionictis*, but this can not be demonstrated from the known material. On the other hand the structural similarity between this skull and that of *Leptarctus* as far as known seems more than mere coincidence, although the teeth are very distinct. However, the differences between the dentitions may not be much greater than between some mustelid genera which have been referred to the same subfamily, such as between *Meles*, *Helictus*, *Arctonyx*, and *Taridea*, or as between *Lutra*, *Latax*, and *Enhydriodon*.

The skull characters exhibited by *Craterogale*, which possesses a truly mustelid dentition, furnish additional evidence for mustelid affinities of *Leptarctus*. Moreover, the cranial characters of *Leptarctus*, as described and figured by Matthew, seem to warrant recognition of a separate subfamily, the Leptarctinae, to which *Craterogale simus* may be referred tentatively.

MEASUREMENTS (IN MILLIMETERS) OF SKULL OF CRATEROGALE SIMUS

Length from anterior margin of nasals to occipital condyles	79.2
Length of nasals	17.3
Distance from anterior margin of nasals to line between postorbital processes of frontals	27.3
Distance from postorbital processes to posterior margins of lambdoidal crests	49.6
Width between orbits	21.8
Width at postorbital constriction	15.5
Width across zygomatic arches	61.0
Greatest depth of zygomatic arch	13.8
Width across mastoid processes	41.2
Width across occipital condyles	19.4
Depth from temporal crests to ventral extremities of bullae	41.3
Distance from posterior margin of palate to foramen magnum	38.0
Width of palate between molars	14.3
Length of cheek tooth series, P ² -M ¹	24 ^a
P ³ , anteroposterior diameter	5.0
P ³ , transverse diameter	3.0
P ⁴ , anteroposterior diameter parallel to outer wall	7.7
P ⁴ , greatest length over deuterocone	8.7
P ⁴ , transverse diameter perpendicular to outer wall	5.6
M ¹ , anteroposterior diameter perpendicular to anterior margin	5.8
M ¹ , greatest diameter	9.6
M ¹ , transverse diameter perpendicular to outer margin	7.2

^a Approximate

BOTANY.—*Three new grasses from Mexico and Chile.*¹ JASON R. SWALLEN, Bureau of Plant Industry.

Among the grasses in a recent collection of plants made by Francis W. Pennell in Mexico, were two new species of *Muhlenbergia*. One of these was found in the Sierra Gazachic, 35 kms. southwest of Minaca, Chihuahua, and the other in the Sierra Madre Occidental, near El Salto, Durango. The third species here described was collected at Cajon de los Pelambres, Dept. Illapel, Chile, by G. Looser.

¹ Received February 14, 1936.

Muhlenbergia lucida Swallen, sp. nov.

Perennis; culmi caespitosi, erecti, 60 cm alti, pubescentes; vaginae puberulae vel scaberulae, internodiis longiores; ligula obtusa, 3–6 mm longa; laminae 15–30 cm longae (superiores 2–5 cm longae), involutae, flexuosae, puberulae vel scaberulae; panicula 15 cm longa, ramis filiformibus, flexuosis, implicatis, basi nudis; pedicelli 10–15 mm longi, filiformes, flexuosi; glumae 3 mm longae, obtusae, hyalinae, pilosae; lemma dense villosum, 4 mm longum, bifidum; arista 12 mm longa, obscure geniculata, basi tortilis; palea villosa lemma aequans.

Perennial; culms caespitose, erect, 60 cm tall, appressed-pubescent; sheaths longer than the internodes, minutely scabrous or appressed-pubescent, sometimes nearly glabrous; ligule firm, obtuse, 3 to 6 mm long; blades 15 to 30 cm long (the uppermost 2 to 5 cm long extending beyond the base of the panicle), flexuous, firm, involute, minutely pubescent or scabrous; panicle 15 cm long, the branches scabrous or pubescent, filiform, flexuous, implicate, naked at the base, the lowermost 5 to 6 cm long; spikelets distant, the pedicels filiform, flexuous mostly 10 to 15 mm long, gradually enlarged upward toward the summit; glumes equal, 3 mm long, obtuse, hyaline, pilose, nerveless; lemma densely villous, 4 mm long, bifid, the teeth 1 mm long, subacute, the midnerve prominent, red, extending from between the teeth into an awn 12 mm long, more or less geniculate, twisted below the bend; palea equal to the lemma, hyaline, villous.

Type in the U. S. National Herbarium no. 1614380 collected on ledges of igneous rock, "Barranca Colorad," Sierra Gazachic, alt. 2300–2500 m, 35 km. southwest of Minaca, Chihuahua, Mexico, September 16–17, 1934, by Francis W. Pennell (no. 18955).

Muhlenbergia lucida is probably most closely related to *M. argentea* Vasey, the only other perennial species which has bilobed lemmas. There are several well marked differences, however, which easily distinguish the latter, the most conspicuous being the narrow panicles with appressed or ascending branches, the short pedicled, appressed spikelets, and the nearly glabrous lemmas.

Muhlenbergia subaristata Swallen, sp. nov.

Perennis; culmi dense caespitosi, erecti, 120 cm alti, glabri vel minute pubescentes; vaginae internodiis longiores, scabrae; ligula truncata, 1–2 mm longa; laminae 15–30 cm longae, 1–3 mm latae, involutae vel planae, attenuatae, flexuosae, scabrae; panicula 25 cm longa, ramis adscendentibus basi nudis, usque ad 10 cm longis; pedicelli filiformes, flexuosi, 1–5 mm longi; glumae 1–1.3 mm longae, obovatae, obtusae, erosae, scabrae vel pubescentes; lemma 4–4.5 mm longum, scabrum vel pubescens, muticum vel arista usque ad 2 mm longa praeditum; palea acuta, lemmate paulo longior, scabra vel pubescens.

Perennial; culms caespitose, erect, 120 cm tall, glabrous or minutely pubescent; sheaths rounded on the back, overlapping, or rarely a little shorter than the internodes, scabrous; ligule truncate, 1–2 mm long; blades loosely involute, becoming flat with age, flexuous, 15–30 cm long, 1–3 mm wide, attenuate to a fine point, scabrous; panicle narrowly pyramidal, 25 cm long, the compound branches, rather distant, ascending, naked at the base, the lowermost 10 cm long; pedicels filiform, flexuous, 1–5 mm long, densely

pubescent below the spikelets; glumes 1–1.3 mm long, obovate, obtuse, erose, scabrous, pubescent at the tip; lemma 4–4.5 mm long, purple, scabrous or pubescent, awnless or with an awn as much as 2 mm long; palea acute, equaling or slightly exceeding the lemma, scabrous or pubescent.

Type in the U. S. National Herbarium no. 18572 collected along river, above Arroyo de Agua, El Salto, Sierra Madre Occidental, alt. 2600–2650 m, Durango, Mexico, September 1, 1934, by Francis W. Pennell (no. 18572).

This species of *Muhlenbergia* belongs in the group with *M. capillaris* (Lam.) Trin., *M. rigida* (H.B.K.) Kunth, and *M. reverchoni* Vasey & Scribn., but differs from all in the short, usually obovate glumes, and from the first two in the awnless or short awned lemmas

***Festuca panda* Swallen, sp. nov.**

Perennis; culmi dense caespitosi, 15–40 cm alti, nodo unico geniculati, glabri; folia basi aggregata; vaginae rubrae, glabrae, membranaceae; ligula ciliata 0.3–0.5 mm longa; laminae foliorum basium firma, arcuatae, 2–5 cm longae, infra glabrae supra scabrae; lamina folii culmi 1 cm longa appressa; panicula 3–7 cm longa, ramis brevibus simplicibus appressis vel adscendentibus 1–3-spiculis; spiculae 8–10 mm longae, 4–5 florum, appressae; gluma prima acuta 1-nervia, 2.5–3 mm longa, glabra vel marginibus scaberrima; gluma secunda obtusa, 3-nervia, glabra, marginibus scabris; lemma 6 mm longum, acutum, muticum, glabrum, marginibus scabris; palea acuta, lemma aequans, carinis scabris.

Perennial; culms densely caespitose, 15–40 cm tall, somewhat flexuous, usually geniculate at the single node, glabrous; innovations numerous; leaves crowded in a dense basal clump; sheaths reddish, glabrous, becoming membranaceous; ligule short-ciliate 0.2–0.5 mm long; basal blades distichous, firm, stiffly arcuate spreading, 2–5 cm long, glabrous on the lower surface, scabrous on the strongly nerved upper surface; culm blades one, 1 cm long, appressed; panicles 3–7 cm long, the short, simple branches appressed or ascending, bearing 1–3 spikelets; spikelets 8–10 mm long, 4–5 flowered, appressed; first glume acute, 1-nerved, 2.5–3 mm long, glabrous, or sparsely scabrous on the margins, the second obtuse, 3-nerved, glabrous, scabrous toward the tip and on the margins; lemmas 6 mm long, acute, awnless, scabrous on the tip and margins, otherwise glabrous or nearly so; palea acute, about equaling the lemma, scabrous on the keels.

Type in the U. S. National Herbarium, no. 1614378 collected at Cajon de los Pelambres, alt. 2900 m, Dept. Illapel, Chile, January 1932, by G. Looser (no. 2151).

The geniculate single noded culms with one short appressed culm blade are characteristic.

BOTANY.—*Gilmania*, a new name for *Phyllogonum*, a very rare genus of plants from Death Valley, California, apparently in process of extinction.¹ FREDERICK V. COVILLE, Bureau of Plant Industry.

My attention has been called by Mr. C. V. Morton to the existence of a genus of mosses named *Phyllogonium*, older than the very rare

¹ Received March 14, 1936.